

Testimony of Tim Morse, Ph.D., Professor and Director of the Chemical Innovations Institute, University of Connecticut Health Center on SB 915, AN ACT CONCERNING THE CHEMICAL INNOVATIONS INSTITUTE AT THE UNIVERSITY OF CONNECTICUT.

Good morning Senator Bye, Representative Willis, and members of the committee. Thank you for this opportunity to express the views of the Chemical Innovations Institute (CII) at the University of Connecticut Health Center (UCHC) in reference to SB 915 with respect to the role of CII.

Connecticut is regarded as a leader in the development of approaches to safer alternatives to toxic chemicals, and the Chemical Innovations Institute is happy to be part of that process. Increased use of safer alternatives results in lower exposures to workers, community, and the environment. There are estimated to be over 80,000 chemicals in common use in the United States and yet we continue to have extensive data gaps concerning toxicity and usage patterns of these chemicals. The Toxic Substances Control Act, as well as chemical regulations by OSHA, are widely considered to be inadequate and out of date, and new international regulations on the use of toxic chemicals, such as the European Union's REACH program, have taken the lead and have important implications for Connecticut industries and overseas exporters. As a result, it is important for many States in this country to take the initiative in promoting the prevention of toxic materials and provide resources and incentives for the use of safer alternatives.

The Chemical Innovations Institute was created by the Connecticut Legislature last year to assist the State by providing research, education and training to Connecticut businesses, state agencies and community groups in assessing toxic chemicals and evaluating the availability of safer alternatives. As the committee is well aware, as a result of a tight fiscal conditions, the CII was not appropriated any funds or other resources by the Legislature, and therefore the Public Act included a provision that we were not required to carry out the duties under the Act unless we are able to secure adequate funding through grants and other means. Currently, we are actively seeking alternative funding sources to carry out the mission of the Institute. As of yet, we have not been able to secure such core funding, though we hope that modest amounts of financial support from private foundations and individuals may be forthcoming later this year. As a result, our achievements in the past year have been limited. We have assembled – with nominations made by Legislature leaders of both parties – a nine-member Board of Directors, representing different stakeholders in the state. We are now in the process of developing a business plan for scoping out programmatic activities if funds become available, outlining an operating budget for carrying out such tasks, and further developing a fundraising approach.

We have been able to accomplish some meaningful results. We have a current grant from the National Institute for Occupational Safety and Health to conduct research for the adoption of green cleaners in workplaces. In addition, we have just completed a study, published in the *Journal of Cleaner Production*, which estimated chemical usage by manufacturers and businesses based in Connecticut, using the template of chemical reporting data of similar industries in Massachusetts. This study estimated that approximately 75 million pounds of chemicals were used in non-chemical manufacturing sectors and an estimated 600 million pounds in the chemical manufacturing sector in Connecticut. Additionally, we found that about half of the total listed chemicals were either carcinogens or posed reproductive

hazards (a copy of the study is attached to this testimony). These preliminary estimates indicate the need for better understanding of actual Connecticut workplace use patterns and for increasing the promotion of safer alternatives that would benefit both Connecticut workers and downstream users of manufactured products.

The current legislative mandate for the CII based on PA 10-164 is to “(1) foster green job growth and safer workplaces through encouraging clean technology innovation and utilization of green chemistry, and (2) provide assistance to businesses, state agencies and nonprofit organizations that seek to utilize alternatives to chemicals that are harmful to public health and the environment.” We would like to provide practical benefit by promoting the use of safer alternatives to reduce exposure to toxics for workers and the community.

While there is planning and discussion of the role of the Institute by our Board, staff, and the legislature, the current vision of the Institute is to have a primary focus on workplace use of chemicals, providing a resource to companies through health and safety professionals and committees for evaluating their current chemical use and identifying potential safer alternatives. In addition, we would like to provide a broader resource to Connecticut citizens and community groups through connections to national networks such as the Interstate Chemical Clearinghouse, sister organizations such as the Toxic Use Reduction Institute at UMass-Lowell, and green chemistry programs such as the one at Yale.

Examples of the type of projects we are contemplating (assuming locating adequate funding) include:

Initial projects that we would like to develop include:

- Characterization of the distribution of high priority chemical use in Connecticut companies, and targeting of manufacturing sub-sectors for interventions integrating existing sources of information on toxics use with national and international chemical priority lists, and specific company information, surveys, and focus groups.
- Identification of incentives and obstacles to industry for the use of safer chemical alternatives.
- Development of effective tools for companies to use to evaluate current chemical use and identify potential safer alternatives for priority chemicals.
- Provide a marketplace for connecting employer needs for safer alternatives to suppliers and green chemistry research.

Yesterday I testified before the Environment Committee in regards to SB 210 which adds the duty of providing the legislature with an annual list of chemicals of high toxic concern and suitable safer alternatives. I am supportive of the need for a broader approach to dealing with chemicals rather than substance by substance, and the Institute would like to have an important role in that process, assuming the availability of adequate funding. In respect to the specifics of the bill, we would like to work with the legislature to optimize the role of the Institute in this process, given our strength in research and education rather than regulation, a historical focus on the workplace use of chemicals, our role of working with businesses to reduce the use of toxic chemicals, and reliance on grants and fundraising to advance the area. We suggest that a study of existing lists where the Institute would work with our Board and relevant state agencies to provide the legislature with recommendations might be the best

approach to this, which might include workshops for input from stakeholders. Connecticut's participation in the Interstate Chemical Clearinghouse would provide useful information for such a study. It might be difficult to do this on an annual basis, particularly without a dedicated funding stream. I believe it is understood by the Committee that such lists focus on intrinsic toxicity of chemicals, and that usage patterns and amounts determine the likelihood of problematic exposures, and so such a list is just a starting point in relation to potential legislative activity. The university can provide research and education functions but has no regulatory process, so the responsibility for regulatory action would, of course, lie with the legislature and/or regulatory agencies.

Providing a list of safer alternatives to the legislature has some significant practical problems. Chemicals have a vast amount of applications and uses, and safer alternatives (which may include an approach that uses no chemicals at all) are very application-specific. Additionally, there is as yet no central repository of safer alternatives. Therefore, we do not believe it is feasible to develop a generic list of safer alternatives, particularly if a list of concern covers dozens or hundreds of chemicals. However, there may be some ways of highlighting particular alternatives that have been developed as part of a study, or providing alternatives noted by programs such as EPA's Design for the Environment, Green Seal, and Green Chemistry research programs. It would also be useful to better understand chemical usage patterns in the state workplaces in relation to potential lists of chemicals of high concern so that educational and outreach activities to businesses can have maximum value; this would require a significant amount of work, since there are not currently good available information on actual use patterns.

We believe that the proposed expansion of the Institute duties in this bill would also be covered under Section i of Public Act 10-164, which provides that we would not be required to carry out those duties if we are not able to secure funding; this is an important provision to retain since we do not currently have funding for such activities, and cannot guarantee that we would have funding in the future.

I would be happy to entertain questions from the committee.

Tim Morse, Ph.D.
Professor and Director, Chemical Innovations Institute
UConn Health Center
Farmington, CT 06030-6210
tmorse@uchc.edu, 860-679-4720